APRIL/MAY 2024

CEL42 — ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is mean by balanced modulator?
2. What is SSB modulation?
3. Define frequency modulation.
4. List the types of reactance modulator.
5. What are the classes of pulse modulation?
6. Mention the advantages pulse position modulation.
7. What is FSK?
8. What is RADAR?
9. List the applications of Yagi-Uda antenna.
10. Define Space wave.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Describe about DSB modulation.

Or

(b) Write a short note on heterodyne receiver.

12. (a) Explain the varactor diode modulator.

Or

(b) Using circuit diagrams, show how the Foster-Seeley discriminator is derived from the balanced slope detector,

13. (a) Describe the pulse-position modulation, and explain with waveforms how it is derived from PWM.

Or

(b) Explain Generation and demodulation of PCM.

14. (a) Brief frequency-shift keying (FSK).

Or

(b) Derive the range equation.

15. (a) Derive the expressions for antenna resistance.

Or

(b) Discuss about the ground wave and space wave propagations.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the amplitude modulation.

17. Explain how the ratio detector demodulates an FM signal?

18. Discuss the PWM.

19. Explain how satellites used for worldwide communications in preference to any other kind.

20. Discuss in detail some shortcomings and difficulties connected with the Cassegrain feed of parabolic reflectors.

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